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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/617,624	07/10/2003	Eduardo Blumwald	529642000500	4097

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EXAMINER	
KUMAR, VINOD	
ART UNIT	**PAPER NUMBER**
1638	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/617,624	BLUMWALD, EDUARDO	
	Examiner	Art Unit	
	Vinod Kumar	1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 December 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1, 9-11 and 18-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,9-11 and 18-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 July 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Status of Objections and Rejections

1. Office acknowledges the receipt of Applicant's request for continued examination (RCE) filed on December 18, 2006. All previous rejections not set forth below have been with drawn in view of claim amendments. Claims 1, 9-11, and 18-21 are pending. Claims 1, 9-11, and 18-21 are being examined.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims, 18-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 18 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite in its recitation "to the nucleic acid" because there is improper antecedent basis for this limitation in the claim. It is suggested to replace "to the nucleic acid" with --thereto--.

Claim 21 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite in its recitation "A transgenic seed produced from the plant", which is confusing, since it is unclear whether the seed comprises SEQ ID NO: 1. It is suggested that the recitation, --, wherein said seed comprises SEQ ID NO: 1-- be inserted at the end of claim.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., In re Berg, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); In re Goodman, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); In re Longi, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); In re Van Ornum, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Thorington, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1, 9-11, and 18-21 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11 and 20 of U.S. Patent No. 7,041875 in view of Moloney et al. (Plant Cell Reports, 8:238-242, 1989) and Ying et al. (Plant Cell Reports, 11:581-585, 1992). Although the conflicting claims are not identical, they are not patentably distinct from each other because the transgenic plants of claims 1-11 and 20 comprising SEQ ID NO: 1 of US Patent No. 7,041875 encompass the transgenic oil crop plants comprising SEQ ID NO: 1 of instant claims 1, 9-10 and 18-21, wherein instant SEQ ID NO: 1 has 100% sequence identity to SEQ ID NO: 1 taught in US Patent No. 7,041875. The property of Na+/H+ transporter activity is inherent to instant SEQ ID NO: 1 comprised by an oil crop transgenic plant.

However, US Patent No. 7,041875 does not indicate that said transgenic plant is canola or safflower.

Moloney et al. teach a method of transformation to produce transgenic rapeseed plant, and assert that *Brassica napus* (same as canola) is a major crop, with a worldwide value as an oilseed in excess of $5 billion per annum (pages 238-241). It would have been prima facie obvious to one of ordinary skill in the art at the time claimed invention was made to use the patented method with rapeseed plants, using any appropriate transformation method including the one taught by Moloney et al. One would have been motivated to produce transgenic rapeseed given the economic importance of this seed crop as asserted by Moloney et al.

Ying et al. teach a method of transformation to produce transgenic safflower plant, and assert that Safflower oil is desirable for human nutrition because of its high degree of polyunsaturation and elevated levels of alpha-tocopherol, with a worldwide value as an oilseed crop (pages 581-582). It would have been prima facie obvious to one of ordinary skill in the art at the time claimed invention was made to use the patented method with Safflower plants, using any appropriate transformation method including the one taught by Ying et al. One would have been motivated to produce transgenic Safflower given the economic importance of this seed crop as asserted by Ying et al.

4. Claims 1, 9-11, and 18-21 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 14-20 of U.S. copending Application No. 10/620,061. Although the conflicting claims are not identical, they are not patentably distinct from each other because the non-naturally occurring

non-halophyte plant comprising SEQ ID NO:1 (100% sequence identity to instant SEQ ID NO: 1) of claims 14-20 encompass the transgenic oil crop plants comprising SEQ ID NO: 1 of instant claims 1, 9-10 and 18-21.

This is a provisional obviousness-type double patenting rejection since the conflicting claims have not been patented.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 9-11, and 18-21 are rejected under 35 U.S.C. 102(e) as being anticipated by Blumwald et al. (US Patent Publication No. US2006/0195948, Filed July 14, 2003, benefit claimed to 60/078,474 which was filed on March 18, 1998).

Blumwald et al. disclose a transgenic oil crop plant of canola or Safflower comprising SEQ ID NO: 1 which has 100% sequence identity with instant SEQ ID NO: 1. The reference further discloses that said SEQ ID NO: 1 is operably linked to a CaMV promoter, and seeds obtained from said transgenic plant comprise SEQ ID NO: 1. The reference also discloses plant seeds comprising SEQ ID NO: 1. See in particular, claims 14-20, paragraphs 0035, 0099, 0100-0101.

Accordingly, Blumwald et al. anticipate the claimed invention.

6. Claims 1, 9, 18-19 and 21 are rejected under 35 U.S.C. 102(e) as being anticipated by Blumwald et al. (US Patent No. 7,041,875, filed March 18, 1998).

Blumwald et al. disclose a transgenic oil crop plant, such as Brassica, cotton, corn etc. comprising SEQ ID NO: 1 which has 100% sequence identity with instant SEQ ID NO: 1. The reference further discloses that said SEQ ID NO: 1 is operably linked to a CaMV promoter, and seeds obtained from said transgenic plant comprise SEQ ID NO: 1. See in particular, claims 1-11, 20; Columns 24-27, Example 4.

Accordingly, Blumwald anticipated the claimed invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1, 9-10, and 18-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumwald et al. (US Patent No. 7,041,875, Filed March 18, 1999) as applied to claims 1, 9, 18-19 and 21 above, and further in view of in view of Moloney et al. (Plant Cell Reports, 8:238-242, 1989).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an

invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

Blumwald et al. teach a transgenic oil crop plant, such as Brassica, cotton, corn etc. comprising SEQ ID NO: 1 which has 100% sequence identity with instant SEQ ID NO: 1. The reference further discloses that said SEQ ID NO: 1 is operably linked to a CaMV promoter, and seeds obtained from said transgenic plant comprise SEQ ID NO: 1. See in particular, claims 1-11, 20; columns 24-27; Example 4.

Blumwald et al. do not teach canola plant.

Moloney et al. teach a method of transformation to produce transgenic rapeseed (same as canola) plant, and assert that *Brassica napus* (same as canola) is a major crop, with a worldwide value as an oilseed in excess of $5 billion per annum (pages 238-241).

It would have been prima facie obvious to one of ordinary skill in the art at the time claimed invention was made to use the patented method with rapeseed (canola) plants, using any appropriate transformation method including the one taught by

Moloney et al. One would have been motivated to produce transgenic rapeseed given the economic importance of this seed crop as asserted by Moloney et al.

Thus, the claimed invention as a whole is prima facie obvious over the combined teachings of the prior art.

8. Claims 1, 9, 11, 18-19, and 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Blumwald et al. (US Patent No. 7,041,875, Filed March 18, 1999) as applied to claims 1, 9, 18-19 and 21 above, and further in view of Ying et al. (Plant Cell Reports, 11:581-585, 1992).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(l)(1) and § 706.02(l)(2).

The teachings of Blumwald et al. have been discussed supra.

Blumwald et al. do not teach safflower.

Ying et al. teach a method of transformation to produce transgenic safflower plant, and assert that Safflower oil is desirable for human nutrition because of its high degree of polyunsaturation and elevated levels of alpha-tocopherol, with a worldwide value as an oilseed crop (pages 581-582). It would have been prima facie obvious to one of ordinary skill in the art at the time claimed invention was made to use the patented method with safflower plants, using any appropriate transformation method including the one taught by Ying et al. One would have been motivated to produce transgenic safflower given the economic importance of this seed crop as asserted by Ying et al.

Thus, the claimed invention as a whole is prima facie obvious over the combined teachings of the prior art.

Conclusions

9. Claims 1, 9-11, 18-21 are rejected.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vinod Kumar whose telephone number is (571) 272-4445. The examiner can normally be reached on 8.30 a.m. to 5.00 pm.
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PHUONG T. BUI
PRIMARY EXAMINER